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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,555	07/28/2006	Frank Olschewski	20793/0205087-US0	2730

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EXAMINER	
SPINKS, ANTOINETTE T	
ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/597,555	OLSCHEWSKI ET AL.	
	Examiner	Art Unit	
	ANTOINETTE T. SPINKS	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *105973* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34,36-50 and 53-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34,36-50 and 53-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 June 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on June 18, 2009 in response to the previous Non-Final Office Action (02/18/2009) is acknowledged and has been entered.

Claims 34, 36 – 50, 53 – 66 are currently pending.

Claims 35, 51 and 52 are cancelled.

Applicant's amendment overcomes the following objections/rejections in the last Office Action:

- Objection to drawings

Response to Arguments

Applicant's arguments filed June 18, 2009 have been fully considered but they are not persuasive.

With respect to claims 34 and 50, Applicant submits that the Braun reference fails to disclose a memory unit configured to store a brightness distribution corresponds to a shading effect of at least one lens. Applicant also submits the lack of processing a detection light beam with a wavelength-dependent brightness distribution.

Examiner respectfully disagrees.

Braun does disclose a memory unit (*a memory in controller 60*) that stores brightness distribution (*illumination information and acquired brightness level, which the brightness is derived from*) on page 23, lines 9-16. The brightness inherently

corresponds to the shading effect of a lens since the measured brightness is measure though the lens.

Regarding Applicant's submission about the lack of processing a detection light beam, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not Differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987); In re Schreiber, 44 USPQ2d 1429 (Fed. Cir. 1997).*

Information Disclosure Statement

Acknowledgement is made of receipt of Information Disclosure Statements(s) (PTO-1449) filed 06/18/2009. An initialed copy is attached to this Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34, 36 – 38, 41, 43, 50, 53 – 55, 58 and 60 – 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Braun et al. (WO 02/05549).

Regarding claims 34, 36, 38, 50, 53 and 55, Braun et al. disclose a microscope system comprising:

at least one lens (*lens 104*) configured to define an illumination field;

at least one light source (*light source 80*) configured to emit an illuminating light beam for illuminating a specimen through the lens;

at least one detector (*photosurface 22*) configured to, pixel-by-pixel, detect a detection light beam coming from the specimen (*38*);

an electronic circuit (*controller 60*) connected downstream from the detector, the electronic circuit including a memory unit (p. 23, line 14) configured to store a wavelength-dependent brightness distribution of an illumination field of the at least one lens, the electronic circuit configured to employ, pixel-by-pixel, the stored wavelength-dependent brightness distribution so as to form a homogeneously illuminated image field (*the brightness distribution of each refractive optical element is dependent on the wavelength*); and

an actuatable element (*pixilated illuminator 74*) configured to control, pixel-by-pixel, an intensity of the illuminating light beam as a function of the stored wavelength-dependent brightness distribution (p. 22, lines 14-15) so as to homogeneously illuminate the illumination field (p. 6, lines 22-28).

wherein the actuatable element includes a control circuit configured to directly control the intensity of the illuminating light beam as a function of the stored wavelength-dependent brightness distribution (p. 6, lines 22-28; p. 22, lines 14-15).

Regarding claims 37 and 54, Braun discloses all the aforementioned limitations of claims 36 and 50, respectively. Braun also discloses wherein: the actuatable element includes an LCD matrix having individual pixels configured to be actuated according to

the stored wavelength-dependent brightness distribution (p. 22, line 12 – p. 23, line 16); and the detector includes a CCD chip (p. 13, line 9).

Regarding claims 41 and 58, Braun discloses all the aforementioned limitations of claims 36 and 50, respectively. Braun also discloses wherein the at least one light source includes at least one laser (p. 24, lines 6-11).

Regarding claims 43 and 60, Braun discloses all the aforementioned limitations of claims 41 and 58, respectively. Braun also discloses wherein the at least one laser is configured to emit a continuous wavelength spectrum (p. 24, lines 6-11).

Regarding claim 61, Braun discloses all the aforementioned limitations of claim 50. Braun also discloses wherein: the detector includes at least one light-sensitive element configured to serially capture pixels of the illumination field on the specimen (p. 13, line 9); and the electronic circuit is configured to combine the pixels so as to form the image field, the image field being computable with the wavelength-dependent brightness distribution (p. 23, lines 9-16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 39 – 40, 42, 44 – 49, 56 – 57, 59, 62 – 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al. in view of Official Notice.

Regarding claims 39 and 56, Braun discloses all the aforementioned limitations of claims 34 and 50, respectively. Braun fails to explicitly disclose wherein the actuatable element includes an acousto-optic element configured to be actuated as a function of the stored wavelength-dependent brightness distribution so that the illumination field has a homogeneous brightness distribution. However, Braun does disclose the use of lasers as the light source. Official notice is taken to note that the use of acousto-optic elements for the diffraction of laser light is notoriously well known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of temporally and spatially affecting the light beams.

Regarding claims 40 and 57, Braun discloses all the aforementioned limitations of claims 39 and 56, respectively. Braun fails to explicitly disclose wherein the acousto-optic element includes at least one of an AOTF, an AOBS and an AOM. Official notice is taken to note that the most common acousto-optic devices used are and AOM, AOTF and AOBS. This is notoriously well known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of temporally and spatial affecting the light beams.

Regarding claims 42 and 59, Braun discloses all the aforementioned limitations of claims 41 and 58, respectively. Braun fails to explicitly disclose wherein the at least one laser includes a multiline laser. Official notice is taken to note that the use of multi-line lasers is notoriously well known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of generating several wavelengths with a single laser.

Regarding claim 44, Braun discloses all the aforementioned limitations of claim 39. Braun also discloses wherein: the detector includes at least one light-sensitive element configured to serially capture pixels of the illumination field on the specimen (p. 13, line 9); and the electronic circuit is configured to combine the pixels so as to form the image field, the image field being computable with the wavelength-dependent brightness distribution (p. 23, lines 9-16).

Regarding claims 45 and 62, Braun discloses all the aforementioned limitations of claims 44 and 64, respectively. Braun fails to explicitly disclose wherein the detector includes an SP module having at least one light-sensitive element. However as suggested in Braun (p. 13, lines 11-14), one of ordinary skill in the art would not have been precluded from including an "SP module" for the purpose of better focusing images on the photosurface 22.

Regarding claims 46 and 63, Braun discloses all the aforementioned limitations of claims 34 and 50, respectively. Braun fails to explicitly disclose wherein the electronic circuit includes a Field-Programmable Gate Array. However, Braun does disclose controller 60 can be programmed to increase illumination of illumination zones (p. 21, lines 21-23). Official notice is taken to note that the use of a FPGA to program a control circuit is notoriously well known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of allowing the ability to update the functionality after shipping.

Regarding claims 47 and 64, Braun discloses all the aforementioned limitations of claims 34 and 50, respectively. Braun fails to explicitly disclose wherein the electronic circuit is implemented in a personal computer associated with the microscope. Official notice is taken to note that the use of a computer to implement a control circuit is notoriously well known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of easily allowing control of the circuit by the user without the need to manipulate the actual device, internally.

Regarding claims 48 and 65, Braun discloses all the aforementioned limitations of claims 34 and 50, respectively. Braun fails to explicitly disclose wherein the wavelength-dependent brightness distribution includes a model. Official notice is taken to note that the use of a model as a calculation or value guideline is notoriously well

known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of consistent calculations throughout the process which would allow for a better output image.

Regarding claims 49 and 66, Braun discloses all the aforementioned limitations of claims 48 and 65, respectively. Braun fails to explicitly disclose wherein the wavelength-dependent brightness distribution is approximated as a polynomial of a higher order and respective coefficients of the model are approximated as a spline function or as a differently modeled spectral function. It would be obvious to one of ordinary skill in the art to approximate the distribution as a higher order polynomial as stated in the instant application ([0024]). Official notice is taken to note that the use of a spectral function to approximate a model is notoriously well known and used in the related art and would have been obvious to one of ordinary skill in the art at the time the invention was made for description purposes.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTOINETTE T. SPINKS whose telephone number is (571)270-3749. The examiner can normally be reached on 9:00am-7:30pm, M-Th, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANTOINETTE T. SPINKS/
Examiner, Art Unit 2622

/Jason Chan/
Supervisory Patent Examiner, Art Unit 2622